Basic Course Information

Semester:	**Winter 2025**	Instructor Name:	**Dr. Behrang Madani**
Course Title & #:	**Chemistry 100 Introduction to Chemistry**	Email:	**Behrang.madani@imperial.edu**
CRN #:	**15018, 15019**	Webpage:	**http://spaces.imperial.edu/behrang.madani/default.html**
Classroom:	**Lecture online & Lab room 2715**	Office #:	**2773**
Class Dates:	**Jan 2 to Feb 3**	Office Hours:	**None**
Class Days:	**MTWThF (Lab)**	Office Phone #:	**(760) 355-6477**
Class Times:	**CRN 15018: 10:00 am-12:15 pm (Lab)** **CRN 15019: 12:30 pm-2:45 pm (Lab)**	Emergency Contact:	**Department Secretary** **(760) 355-6155**
Units:	**4.0**		

Course Description

Elementary principles of general inorganic chemistry, a preparatory course for CHEM 200. Previous science background is recommended but not required. This course is designed for non-science majors and students who need only a one-semester general chemistry course, and also for students entering a paramedical and allied health fields, and industrial applications such as power plants. This course will satisfy the prerequisite for CHEM 200.(C-ID: CHEM 101) (CSU, UC credit limited. See a counselor.)
Prerequisite: Intermediate Algebra or appropriate placement as defined by AB 705 with a grade of "C" or better.

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Solve chemical problems using modern atomic theory. (ILO2, ILO4)
2. Perform chemical experiments in a scientific manner using proper techniques, data analysis, and safety equipment. (ILO2, ILO3, ILO4)

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. calculate English and metric unit conversions and measurements using dimensional analysis.
2. write symbols for elements and know common ionic charges.
3. derive and write formulas and names for chemical compounds.

4. write and balance common chemical equations and identify reaction types.
5. solve stoichiometric problems, including their solutions using dimensional analysis.
6. describe atomic structure including isotopes, periodicity and molecular structure in terms of subatomic particles.
7. identify types of energy and calculate specific heat; identify energy involved in change of state including heat of vaporization and predict behaviors in cooling curves; calculate caloric and nutritional values of various foods.
8. describe gas behavior and solve problems involving the various gas laws.
9. identify the type of intermolecular forces existing between molecules, and its effect on macroscopic property of the substance.
10. calculate solution concentration of various types including dilutions.
11. determine the oxidant/reductant and balance redox equations.
12. define the three basic concepts (Arrhenius, Bronsted-Lowry and Lewis) of acids and bases and perform titration experiments and calculate pH.
13. describe nuclear processes and write nuclear equations using the subatomic particles involved and identify health factors and risks involved.
14. use Le Chatelier's Principle to predict the shift in the direction of the reactants/products

Textbooks & Other Resources or Links

1. *Introductory to Chemistry* (Links to an external site.), ISBN 13: 9781453311073

You have several options to obtain this book:

(Preferred) The book on Libretexts (Links to an external site.)

- For the textbook: click on (in above link)

- View online (Links to an external site.) (Links to an external site.)
- Download a PDF (Links to an external site.) (Links to an external site.)
- Order a print copy (Links to an external site.)(Links to an external site.)

2. Chemistry 100 Laboratory Manual available at **IVC STEM/CHEM Club** ($20)
3. Safety goggles ($5; needed on second class day). The goggles must completely enclose the area around the eyes.
4. Non-programmable scientific calculator ($15 - $25): Ti-30X IIB or Ti-30X IIS are recommended. You will need to use logarithms, functions, exponents, scientific notation, etc. **Bring this to all lecture and lab meetings.**
5. Seven (7) Scantron Sheets Form No. 882-E for exams and final.
6. Close-toed shoes for labs
7. Registration with Achieve via Canvas to do your homework (42$) – requires credit/debit card.
8. Problem set packet (optional)

Course Requirements and Instructional Methods

Exams: You have 6 exams including the final exam (see your course schedule). Some exams are online and some exams are in the class. There are study guides/reviews on Canvas and you can study before each test and final exam. There are **no make-up exams**. Your lowest test grade, excluding the final test grade, will be dropped. If you miss a test, the test can be dropped as your lowest test grade.

Homework: Each homework has a due date and always finishes at 11:59pm. The goal is to give you sufficient practice to enable you to be successful on the examinations. Homework problems are found online using Canvas. The lowest homework scores will be dropped. You have 3 attempts per question to answer correctly. There will be no penalty for correctly answering on the first, second, or third attempt. There is no penalty for viewing the hint. In order to grade your answer and find out if you answered correctly, you should press "CHECK ANSWER." If you wish to switch to another question without checking the answer for the current question, you can press "NEXT" or use the map at the top right corner of the question. After the due date, the homework assignment cannot be worked on but can be viewed. Late homework, lab reports, projects, etc will not be accepted and you will have earned zero for that work.

Lab Experiments: We are going to have 8 experiments during the semester. You will work with your partner and prepare the lab report using the lab manual. I will drop the lowest lab grade. **No make-up lab.**

Lab final exam: At the end of the semester (final week), we will have an exam for the lab experiments in the class (it is not online). You need to know all experiments, safety rules, name of equipment, and their applications. There is **no make-up** because the date and time of the lab final is the last week of the semester.

Final Exam: The Final Exam is comprehensive, and it will be in the class (it is not online). There is **no make-up** because the date and time of the final exam is the last week of the semester.

Get Started

Please Find your course on Canvas and go to the home page. Click on "Start Here" and it will send you to Modules section. Study lab safety rules and list of the lab equipment. Then, register for Achieve website using the link on Canvas to start doing the assignments. **Please do not go directly to Achieve website and always open the Achieve website via Canvas.**

How to contact your Instructor:

- Email me any time at: behrang.madani@imperial.edu
- I will respond to your email within 24 hours at any day during the week
- I will be in the lab during experiments. You can ask your questions there.
- Use Pronto on canvas to chat with me
- You may need help from the IVC library (Links to an external site.) for technical support

How I Will Contact You

I will be an active participant in this course. You can expect that I will reach out to you many times each week, via the following methods:

- **Announcements**: I typically make an announcement in the labs. Sometimes, I post an announcement on Canvas. Keep an eye out for this important information!
- **Canvas Inbox messages**: I will occasionally reach out via the Inbox to check in with you.
- **Videos and other stuffs**: I will post on canvas a lecture video, PowerPoint slides, problem sets and more each week for each chapter.

Course Grading Based on Course Objectives

- **Study Hints:** Chemistry is a very demanding course. Depending on your background, you will need to spend 1-4 hours outside of lab to get your work done. Missing a lecture usually means your grade falls by ½ grade.

• **Do not fall behind.** Two things are very important in order to learn better:

- **Go to office hours**
- **Get a tutor**

Course Grading on Course Objectives

Homework	17.05%
Lab report	26.14%
Lab final exam	5.68%
Lecture exams	34.09%
Final exam	17.05%

Your final grade will be assigned based on following manner:

90% – 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 59%	F

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.

Classroom Etiquette

- **Add/Drop**: It is the responsibility of the student to take the necessary steps to add and/or drop the class by the college deadlines.
- **Late Submissions** Any late work (homework assignment, project, lab report, exams) will not be accepted after the due date. If you have an urgent issue or an emergency talk with me in advance to extend the due date for you.

Online Netiquette

What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online. • Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- CANVAS LMS. Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: Canvas Student Login. The Canvas Student Guides Site provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.

- Learning Services. There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your Campus Map for the Math Lab; Reading, Writing & Language Labs; and the Study Skills Center.
- Library Services. There is more to our library than just books. You have access to tutors in the Study Skills Center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. The DSP&S office is located in Building 1200, telephone 760-355-6434. Please contact them if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center**. A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC Student Health Center at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services**. Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

Veteran's Center

The mission of the IVC Military and Veteran Success Center is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid

assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.
- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC General Catalog.

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC Library Department provides numerous Information Literacy Tutorials to assist students in this endeavor.

Important dates

Important Dates and Deadlines

NOTE: The deadlines below are for full-term classes. Deadlines for short-term classes vary with the length of the class. Most deadlines are mandated in the CA Code of Regulations and are a percentage of the length of the class.

Beginning October 1	New and former IVC students may file an admission application for Winter/Spring 2025 and/or Summer/Fall 2025.
November 4	Priority registration begins.
December 16 – January 1	College closed for winter recess.
January 1	Residency determination date for Winter Intersession.
January 2	**Classes begin for Winter Intersession.** Beginning on the first day each class meets, add authorization code from instructor required to register for that Winter class, filled or open.
January 2 - 4	**Late Registration for Winter Intersession.** Beginning on the first day each class meets, add authorization code from instructor required to register for that Winter class, filled or open.
January 4	**Deadline to register for Winter Intersession full-term courses.**
January 4	**Deadline to select P/NP grading option for Winter Intersession courses with that option.** Does not pertain to Non-credit Program courses.
January 8	**Deadline to drop Winter Intersession full-term classes without a W and no fees.**
January 8	Ticketing for parking violations in student spaces on main campus begins. Note: tickets are issued for reserved (faculty/staff), disabled, metered, 15-minute, and no-parking spaces year around.
January 16	**Financial Aid Freeze Date -** Complete withdrawal before this date will require financial aid eligibility recalculation and funds may be owed.
January 20	**Holiday** – Martin Luther King Day. College closed. No classes.
January 25	**Deadline to drop Winter Intersession courses with a W.**
February 3	**Deadline to apply to receive degree or certificate at end of Winter Intersession.** Completed petition must be received in Admissions & Records Office by this date. Students must meet with a Counselor and have an evaluation completed and petition signed before this date.
February 3	Winter Intersession final exams; last day of Winter Intersession.

Anticipated Class Schedule/Calendar

WK	DAY	DATE	LECTURE (Online)	LABORATORY (Room 2715)
1	Thurs.	1-2	Ch 1 & 2: Chemical World & Measurement	Safety, Locker Check-in, Problem set 1
	Fri.	1-3	Ch 3: Matter and Energy	Lab 1: Measurements and Density, Problem Set 1
2	Mon.	1-6	Ch 4: Atoms and Elements, Problem Set 2	Lab 2: Heat Capacity and Specific Heat, Problem set 2
	Tues.	1-7	Ch 5: Molecules and Compounds, Problem Set 3	Lab 3: Determining the percent water in a hydrated metal salt, Problem set 3
	Wed.	1-8	Ch 6: Chemical Composition, Problem Set 4	**Lecture Exam 1 (Chap. 1-4)**
	Thurs.	1-9	Ch 7: Chemical Reactions	Problem Sets 4 & 5
	Fri.	1-10	Ch 7: Chemical Reactions, Problem Set 5	Lab 4: Using Solubility Rules and Net Ionic Equation, Problem set 5
3	Mon.	1-13	Ch 8: Quantities in Chemical Reactions Problem set 6	**Lecture Exam 2 (Chap. 5-6)**
	Tues.	1-14	Ch 9: Electrons in Atoms and the Periodic Table	Problem Sets 6 & 7
	Wed.	1-15	Ch 10: Chemical Bonding	Lab 5: Predicting Molecular Polarity and Lewis Structure, Problem set 8
	Thurs.	1-16	Ch 10: Chemical Bonding, Problem Set 8	**Lecture Exam 3 (Chap. 7-8)**
	Fri.	1-17	Ch 11: Gases	Lab 6: Molar Volume of a gas, Problem set 9
4	Mon.	1-20	HOLIDAY – MLK DAY	
	Tues.	1-21	Ch 12: Liquid, Solids, and Intermolecular Forces	Problem set 9
	Wed.	1-22	Ch 13: Solutions	Problem Set 10
	Thurs.	1-23	Ch 13: Solutions	**Lecture Exam 4 (Chap. 9-12)**
	Fri.	1-24	Ch 14: Acids and Bases	Lab 7: Using $Co(H_2O)_6Cl_2$ to Demonstrate Le Chatelier's Principle in Chemical Equil**.**
5	Mon.	1-27	Ch 14: Acids and Bases	Problem Set 11
	Tues.	1-28	Ch 15: Chemical Equilibrium	Lab 8: Titration of Vinegar
	Wed.	1-29	Ch 15 & 16: Chemical Equilibrium; Redox Reactions	Problem Set 12
	Thurs.	1-30	Ch16: Redox Reactions	**Lecture Exam 5 (Chap. 13-15)**
	Fri.	1-31	Final Exam & Lab Final Review	Final Exam & Lab Final Review
	Mon	2-3	**Final Exam** (During Lecture Hrs)	**Lab Final Exam** and Check out

Note: The course syllabus is intended to provide students with basic information concerning the course. The syllabus can be viewed as a "blueprint" for the course; **changes in the syllabus can be made and students will be informed** of any substantial changes concerning exams, grading or attendance policy and/or changes to reading or homework assignments.